



dots must be widely spaced to permit gas flow. In the present invention, the reactant gas flows through the electrode, and it is desirable to minimize the gaps between the discrete elements.

Therefore, it is submitted that JP'472 does not anticipate nor teach towards amended claim 11 or new independent claim 15. Each of these claims contains the limitation that the discrete elements have a polygonal shape.

5. Examiner has rejected claims 1-4, 12 and 14 as being anticipated by Ruhl et al Patent No. 6,361,892 (the "Ruhl reference"). With respect, it is submitted that the claims, as amended, are not anticipated by the Ruhl reference.

Ruhl teaches an electrode which defines microchannels, intended to permit even gas flow through the electrode. As stated in the abstract, the microchannels "achieves tailored local flow, pressure, and velocity distributions."

There are two primary distinctions between the teachings of the Ruhl reference and the present invention. First, in the present claims, the gaps are said to be substantially uniform. In the Ruhl reference, the gaps or microchannels vary widely in size, in order to optimize flow distribution, tailor gas velocity and pressure drop from the centre of the circular electrode out towards the periphery. Therefore, the gaps in Ruhl are not "substantially uniform" as claimed herein. Secondly, the microchannels taught by Ruhl are not linear, as they are in the present invention. The spacing between the columnar electrodes in Ruhl is irregular.

Additionally, it is claimed in the present invention that adjacent polygonal discrete elements share parallel edges. This is related to the limitation that the gaps be substantially uniform and linear. It is clear that the Ruhl reference does not teach discrete elements having parallel edges.

Ruhl does not teach towards a solution which includes parallel edges. As seen in Ruhl, the gaps or microchannels must vary in size in order to tailor or manage pressure drop and gas velocity through the cell. Perhaps the clearest indication of this teaching is found in claim 1 where it is said "...wherein said microchannel cross-sectional area increases progressively distal within the stack

from said feed tube." As such, the columnar electrodes cannot have parallel edges, which requires uniform cross-sectional area of the gap or microchannel.

In the present invention, the gaps do not function to channel or control gas flow as in the Ruhl reference. Gas distribution is accomplished by a separate element which is not part of the claimed invention. In the present case, the gaps are primarily intended to relieve physical stress caused by mismatched rates of thermal expansion. The gaps are therefore minimized to maximize electrode area but still completely separate discrete electrode elements.

Therefore, it is submitted that the claims as amended are not anticipated by, nor suggested, by the Ruhl reference.

6-9. All remaining claims depend from claims 11, 12 or 15, and are therefore submitted to be patentable.

### CONCLUSION

In view of the foregoing remarks and amendments, it is respectfully submitted that this application is in condition for allowance and allowance thereof is respectfully requested.

Respectfully submitted,

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